



*IPW*

Patent  
45358.00002.CON

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Scott B. Wilson

Serial No.: 10/810,949

Filed: March 25, 2004

For: METHOD AND SYSTEM FOR  
DETECTING SEIZURES USING  
ELECTROENCEPHALOGRAMS

)  
) **Group Art Unit:** To Be Assigned  
)  
) **Examiner:** To Be Assigned  
)  
) **Customer No.:** 36183  
)  
)  
)  
)  
)  
)  
)

TRANSMITTAL LETTER

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Enclosed are the following documents:

- Information Disclosure Statement;
- Form PTO/SB/08A; and
- Return Postcard.

CERTIFICATE OF MAILING  
(37 C.F.R. §1.8a)

I hereby certify that this paper (along with anything referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as First Class Mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date of Deposit

*7/21/04*

Name of Person Mailing Paper

*Tim Lasher*

Signature of Person Mailing Paper

*[Signature]*

::ODMA\PCDOCS\SAN\_DIEGO\93192\1  
SAN /93192.1

No fee is believed due with this submission; however, the Commissioner is authorized to charge any fee required by this submission to our Deposit Account No. **50-2613**.

Respectfully submitted,

PAUL, HASTINGS, JANOFSKY & WALKER LLP

Dated: 7/27/04

By: Amy E. Simpson  
Amy E. Simpson  
Reg. No. 54,688

**PAUL, HASTINGS, JANOFSKY & WALKER LLP**  
P.O. Box 919092  
San Diego, CA 92191-9092  
Phone: (858) 720-2500  
Fax: (858) 720-2555



Patent  
45385.00002.CON

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Scott B. Wilson

Serial No.: 10/810,949

Filed: March 25, 2004

For: METHOD AND SYSTEM FOR  
DETECTING SEIZURES USING  
ELECTRONCEPHALOGRAMS

)  
) **Group Art Unit:** To Be Assigned  
)  
) **Examiner:** To Be Assigned  
)  
) **Customer No.:** 36183  
)  
)  
)  
)  
)  
)  
)

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In compliance with the Applicant's duty under 37 CFR § 1.56, the following information is brought to the attention of the Examiner.

CERTIFICATE OF MAILING  
(37 CFR §1.8 a)

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as First Class Mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

\_\_\_\_\_  
7/27/04  
\_\_\_\_\_  
Date of Delivery  
SAN /93190.1

\_\_\_\_\_  
Tim Cester  
Name of Person Delivering Paper  
\_\_\_\_\_  
Signature of Person Delivering Paper

**REFERENCES**

☐ The references are listed on the attached Form PTO/SB/08a and copies are enclosed for the convenience of the Examiner.

☒ Copies of the references listed on the attached Form PTO/SB/08a have already been submitted in corresponding Patent Application No. 09/123,843 and therefore, copies of the same are not enclosed.

The items identified in this Information Disclosure Statement may or may not be “material” pursuant to 37 CFR § 1.56 and the submission thereof by Applicant shall not be construed as an admission that any such patent, publication or other information referred to therein is material or considered to be material (37 CFR § 1.97(h)), or even qualifies as “prior art” 35 USC § 102 with respect to this invention unless specifically designated by Applicant as such.

The filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information, as defined in 37 CFR § 1.56, exists.

**DISCLOSURE**

☒ The attached IDS is being filed in accordance with 37 CFR §§ 1.97 and 1.98. This IDS is believed to be timely in that it is being submitted under 37 CFR § 1.97(b)(3), that is before the mailing of a first Office Action on the merits. Thus, no petition or fee is required. However, if the undersigned representative of Applicant is in error in this regard, then the Examiner is requested to consider this IDS as filed under § 1.97(c)

☐ The attached Information Disclosure Statement is being filed in accordance with 37 CFR §§ 1.97(c) and 1.98. This IDS is being filed after an action on the merits but before a Final Action under § 1.113 or a Notice of Allowance under § 1.311. In the event that this IDS is not received before a Final Action under § 1.113 or a Notice of Allowance under § 1.311, the Applicant respectfully requests the filing of these papers to be considered a petition requesting consideration of this IDS pursuant to 37 CFR § 1.97(d).

☐ The attached Information Disclosure Statement is being filed in accordance with 37 CFR §§ 1.97(d) and 1.98. This IDS is being filed after receipt of a final action but before receipt of a Notice of Allowance Under § 1.311.

☐ I certify that pursuant to 37 CFR 1.97(e)(1), each item of information contained in this Information Disclosure Statement was first cited in any communication (International Search Report – copy enclosed) from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the Information Disclosure Statement.

☐ I certify that pursuant to 37 CFR 1.97(e)(2), no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the best of my knowledge, no item of information contained in this Information Disclosure Statement was known to any individual more than three months prior to the filing of this Information Disclosure Statement.

**PAYMENT METHOD**

☐

Enclosed is a check to cover the fee pursuant to 37 CFR § 1.17(p).

☒

The Examiner is hereby authorized to charge any fee due with this filing to our Deposit  
Account No. **50-2613**.

☒

The Examiner is hereby authorized to charge any additional fee(s) required by this paper to  
our Deposit Account No. **50-2613**.

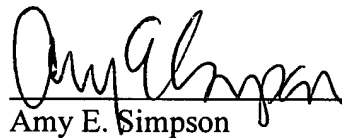
Respectfully submitted,

PAUL, HASTINGS, JANOFSKY & WALKER

Dated: \_\_\_\_\_

7/27/04

By: \_\_\_\_\_



Amy E. Simpson  
Reg. No. 54,688

P.O. Box 919092  
San Diego, California 92191-9092  
Telephone: (858) 720-2500  
Facsimile: (858) 720-2555



Please type a plus sign (+) inside this box → +

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 4

Complete if Known,

Application Number	10/810,949
Filing Date	March 25, 2003
First Named Inventor	Wilson
Group Art Unit	To Be Assigned
Examiner Name	To Be Assigned
Attorney Docket Number	45385.00002.CON

### U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	AA	5,311,876		Olsen, et al.	05-1994	
	AB	6,442,421		Le Van Quyen, et al.	08-2002	
	AC	6,337,997		Rise	01-08-2002	
	AD	6,594,524		Esteller, et al.	07-2003	
	AE	6,658,287		Litt, et al.	12-2003	

### FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T 6
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				

### NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	AF	AKAY, M., "Detection and Estimation Methods for Biomedical Signals," <i>San Diego: Academic Press</i> xiv(268) 186-191 (1996).	
	AG	AKAY, M., "Time Frequency and Wavelets in Biomedical Signal Processing," <i>IEEE Press</i> xxviii(739) 398-399 (1998).	
	AH	BLANCO, S., et al., "Applying Time-Frequency Analysis to Seizure EEG Activity," <i>IEEE Eng. Med. Biol. Mag.</i> 16(1):64-71 (1997).	
	AI	BODENSTEIN, G. et al., "Computerized EEG Pattern Classification by Adaptive Segmentation and Probability-Density-Function Classification. Description of Method" <i>Comput. Biol. Med.</i> 15(5):297-312 (1985).	

Examiner  
Signature

Date  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation is not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → +

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	10/810,949
		Filing Date	March 25, 2004
		First Named Inventor	Wilson
		Group Art Unit	To Be Assigned
		Examiner Name	To Be Assigned
Sheet	2	of	4
		Attorney Docket Number	45358.00002.CON

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	AJ	BULLMORE, E., Et al., "A New Technique for Fractal Analysis Applied to Human, Intracerebrally Recorded, Ictal Electroencephalographic Signals," <i>Neurosci Lett.</i> 146(2): 227-230 (1992).	
	AK	FRANASZCZUK, P.J., "Time-Frequency Analysis Using the Matching Pursuit Algorithm Applied to Seizures Originating From the Mesial Temporal Lobe," <i>Electroencephalogr Clin. Neurophysiol.</i> 106(6):513-521 (1998).	
	AL	GABOR, A. J., "Seizure Detection Using A Self-Organizing Neural Network: Validation and Comparison With Other Detection Strategies," <i>Electroencephalogr Clin Neurophysiol.</i> 107(1):27-32 (1998).	
	AM	GABOR, A. J., et al., "Automated Seizure Detection Using A Self-Organizing Neural Network," <i>Electroencephalogr Clin. Neurophysiol.</i> 99(3):257-266 (1996).	
	AN	GEVA, A.B., et al., "Forecasting Generalized Epileptic Seizures from the EEG Signal by Wavelet Analysis and Dynamic Unsupervised Fuzzy Clustering," <i>IEEE Trans. Biomed. Eng.</i> 40(10):1205-1216 (1998).	
	AO	GEVA, A.B., "Feature Extraction and State Identification in Biomedical Signals Using Hierarchical Fuzzy Clustering," <i>Med. Biol. Eng. Comput.</i> 36(5):608-614 (1998).	
	AP	GOTMAN, J., et al., "Automatic Recognition and Qualification of Interictal Epileptic Activity in the Human Scalp EEG," <i>Electoencephalogr Clin. Neurophysiol.</i> 41(5):513-529 (1976).	
	AQ	GOTMAN, J, et al., "Automatic Recognition of Epileptic Seizures in the EEG," <i>Electoencephalogr Clin. Neurophysiol.</i> 54:530-450 (1982).	
	AR	HILFIKER, P., et al., "Detection and Evolution of Rhythmic Components in Ictal EEG Using Short Segment Spectra and Discriminant Analysis," <i>Electoencephalogr Clin. Neurophysiol.</i> 82(4):225-265 (1992).	
	AS	HOFMANN, W.G., et al., "Unsupervised Classification of EEG From Subdural Seizure Recordings," <i>Brain Topogr.</i> 10(2):121-132 (1997).	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation is not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

**Burden Hour Statement:** This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



Please type a plus sign (+) inside this box → +

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	10/810,949
		Filing Date	March 25, 2004
		First Named Inventor	Wilson
		Group Art Unit	To Be Assigned
		Examiner Name	To Be Assigned
Sheet	3	of	4
		Attorney Docket Number	45358.00002.CON

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	AT	JAIN, A.K., et al., "Algorithms for Clustering Data," xiv (320) 54-59 (1998).	
	AU	JING, H., et al., "Comparison of Human Ictal, Interictal and Normal Non-linear Component Analyses," <i>Clin. Neurophysiol.</i> 111(7):1282-1292 (2000).	
	AV	KLATCHKO, A., et al., "Enhancing the Detection of Seizures with a Clustering Algorithm," <i>Electroencephalogr Clin. Neurophysiol.</i> 106(1):52-63 (1998).	
	AW	KOMZAK, J., "Hierarchical Clustering Speed Up Using Position Lists and Data Position Hierarchy," <a href="http://www.kmi.open.ac.uk/papers/kmi-tr-115.pdf">http://www.kmi.open.ac.uk/papers/kmi-tr-115.pdf</a> (2001).	
	AX	LIU, A., et al., "Detection of Neonatal Seizures Through Computerized EEG Analysis," <i>Electroencephalogr Clin. Neurophysiol.</i> 82(1):30-37 (1992).	
	AY	MALLAT, S.G., "A Wavelet Tour of Signal Processing," xxiv (637) 420-423 (1999).	
	AZ	OSORIO, I., et al., "Real-time Automated Detection and Quantitative Analysis of Seizures and Short-Term Prediction of Clinical Onset," <i>Epilepsia</i> 39(6):615-627 (1988).	
	BA	PARK, H.S., "Detection of Epileptiform Activities in the EEG Using Neural Network and Expert System," <i>Medinfo.</i> 9(2):1255-1259 (1998).	
	BB	PENCZEK, P., et al., "Computer-aided Analysis of the Epileptic EEG," <i>Acta. Physiol. Pol.</i> 37(6):262-274 (1986).	
	BC	QU, H., et al., "A Patient-Specific Algorithm for the Detection of Seizure Onset in Long-Term EEG Monitoring: Possible Use as a Warning Device," <i>IEEE Trans Biomed. Eng.</i> 44(2):155-122 (1997).	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation is not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → +

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO		<b>Complete if Known</b>	
		Application Number	10/810,949
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Filing Date	March 25, 2004
		First Named Inventor	Wilson
		Group Art Unit	To Be Assigned
		Examiner Name	To Be Assigned
		Attorney Docket Number	45358.00002.CON
Sheet	4	of	4

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	BD	WILSON, S.B., et al., "Spike Detection IV: Reduction of Model Complexity Via Small Neural Networks Constrained by Domain Expertise," Abstract:1-18 (2002).	
	BE	WICKERHAUSER, M.V., "Adapted Wavelet Analysis from Theory to Software," xii (486) 272-275, 416-418 (1994).	
	BF	WU, L., et al., "Segmentation and Classification of EEG During Epileptic Seizures," <i>Electoencephalogr Clin. Neurophysiol</i> 106(4):344-356 (1998).	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation is not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.